

Adding Decimals

Example: $3.4 + 5.67 + 28.338$

How do we add this?

Steps:

Example:

3.4
5.67
<u>+ 28.338</u>

Subtracting Decimals

Example: $22.1 - 15.47 - 1.28$

How do we subtract this?

Steps:

Example:

$$\begin{array}{r} 22.1 \\ - 15.47 \\ \hline \#.\# \\ - 1.28 \end{array}$$

Please do the worksheet with Workshops 3 & 4

Check answers:

1) 102.49

2) 21.633

3) 178.883

4) 473.455

5) 33.754

6) 174.7

7) 54.481

8) 465.78

9) 61.361

10) 55.80

11) 2.12

12) 170.11

13) 725.94

14) 114.13

15) 143.81

16) 413.2

17) 42.54

18) 243.47

19) 223.25

20) 95.28

21) 233.38

Multiplying and dividing decimals

What you need to know:

Examples:

1) 16.4×0.28

4.592

2) 1.22×4.6789

5.708258

3) $\$4.75 \times \3.25

~~\$~~ 15.4375
\$ 15.44

4) 9.12×5.3333

48.639696

Dividing Decimals

What you need to know:

$$3.8 \overline{) 46.27}$$

Examples:

1) $\$430.25 / 3$

$$143.41\overline{6} = \$143.42$$

3) $1.55 / 7.3345$

$$.2113300 \sim .21$$

2) $8.4542 / 5.6$

$$1.509678571 \approx 1.5$$

4) $3.642 / 9.488$

$$.3838$$

Complete the worksheet for Workshops 5 and 6

Check answers:

1) 60.84

2) 163.2

3) 10.746

4) 10.696

5) \$1884.96

6) 20.572 ~ \$20.57

7) 7.3

8) 3.62

9) 5.919 $\bar{3}$

10) \$22.00795 ~ \$22.01

11) 38.37662 miles/gallon

Writing fractions as decimals

~~How?~~

$$4\frac{5}{8}\% \Rightarrow \boxed{4.625\%} = \frac{.04625}{\times 1000}$$

Examples:

$$1) \frac{1}{5} = 0.20$$

$$2) \frac{9}{7} = 1.3$$
$$1.285$$

$$3) \frac{4}{8} = 0.5$$

$$4) 8\frac{2}{3} = 8.\overline{666}$$
$$8.67$$

$$5) 6\frac{3}{11} = 6.\overline{27}$$

$$6) \frac{10}{3} = 3.\overline{333}$$

Writing decimals as fractions

How?

Examples:

1) 0.34

2) 2.422

3) 8.55

4) 0.45

5) 0.628

6) 3.125

Writing Decimals and Percents (and vice versa)

What to do: moving decimal place 2 spots

Decimals to percent: $0.456 \Rightarrow 45.6\%$ 2 places RIGHT

Percent to decimals: $31.72\% \Rightarrow 0.3172$ 2 places LEFT

Examples:

Change to percent:

1) 0.0045

0.45%

2) 5.466

546.6%

3) 0.28

28%

Change to decimal:

4) 49.66%

0.4966

5) 0.037%

0.00037

6) 8.12%

0.0812

7

Please complete the worksheet with workshops 7 and 8.

$$\textcircled{1} .40$$

$$\textcircled{11} 83/100$$

$$\textcircled{3} .375$$

$$\textcircled{13} 1\frac{1}{4}$$

$$\textcircled{5} 4.63$$

$$\textcircled{15} 783/100$$

$$\textcircled{7} 8.11\overline{1}$$

$$\textcircled{9} 2/5$$

8

$$\textcircled{2} \del{0.25}$$

$$\textcircled{12} 317\%$$

$$\textcircled{4} 0.08$$

$$\textcircled{6} 1.04$$

$$\textcircled{8} 0.172$$

$$\textcircled{10} 51\%$$

Percents OF (not off!)

Example: What is 20% of 95?

Process:

Examples:

Find the following

1) 40% of 70

2) 5% of 30

3) 25% of 120

4) 145% of 200

5) The delivery charge for an item is 7% of the selling price of the item.

a) If I buy something off of Ebay that is \$140, how much will my delivery charge be?

b) What will my total cost be for the item?

6) A student got an 85% on a test (which means they got 85% of the questions right). If the test had 60 questions, how many questions did they answer correctly?

Percents OFF (not of!)

Process:

Examples:

1) Take 16% off of \$152.61

2) Take 86.2% off of \$75.3

3) Take 10% off of \$61.75

3) Take 95.2% off of \$517.28

5) A coat is usually \$120.50. It's on sale for 65% off. What is the price of the coat?

6) Referring to problem #5, there is sales tax of 6% on the coat. (remember this is on the reduced price). How will you pay for the coat (total)??

Problems about percents:

REVIEW

of =

off =

Examples:

1) 25% of \$43.57

2) 34% off of \$105.25

Problems about Percents

Example: 45 is 28% of what number?

Decode:

of =

is =

what number =

Rewrite equation:

Solve:

Examples:

1) 35 is 80% of what number?

2) 16 is 23% of what number?

3) 40 is what percent of 12?

4) 7 is what percent of 36?

Finding the percent OFF

Example: A computer is on sale for \$650. It was originally \$875.50.
What percent are you SAVING? (What is the percent off?)

You want to buy a new cell phone. It usually costs \$215. However if you sign up for a new 2 year contract, you will get the phone for \$50. What percentage are you *saving* on the phone?

What amount are you saving on the phone?

When you sign the new 2 year contract, there is a \$50 activation fee. How much are you actually saving overall, knowing this? What percent are you actually saving?

Fractions

- The top number in a fraction is called the _____
- The bottom number in the fraction is called the _____

Multiplying:

- To multiply 2 fractions together...

Examples:

1)

2)

Dividing:

- To divide two fractions, we do the following

-

-

-

Examples:

1)

2)

Write:

Flip and change:

Multiply:

Examples:

1.

2.

3.

4.

Adding and Subtracting Fractions

Process:

Examples:

1)

2)

3)

4)

Solving Equations with Addition and Subtraction

Example:

1) $y - 7 = 23$

2) $x + 12 = 31$

Try these:

1) $m - 23 = 17$

2) $b + 21 = 39$

3) $r - 4 = 59$

$$4) 67 + x = 102$$

$$5) w - 29 = -2$$

$$6) 41 = y + 53$$

$$7) m + -9 = 21$$

$$8) 10 = -3 + x$$

$$9) m - 15 = 9$$

Solving Equations with Multiplication and Division

Examples:

1)

2)

3)

4)

Examples:

1) $9x = 153$

2)

3) $-11m = -154$

4) $6.2y = 49.6$

5)

6)

Solving Equations with 2 or more operations

Examples:

1) $7r + 5 = 26$

2) $4t - 6 = 14$

3) $-8 - 2w = 11$

4) $5(x-5) = 10$

5) $12 - 3m = 24$

6) $-2(r + 9) = -28$

7) $-8 = 12 - 4x$

8)

Solving Equations with Variables on Both Sides

Process:

Example:

Examples:

1) $4s - 10 = 5 + s$

2) $5x + 3 = 2(x - 6)$

3) $3y - 5 = y + -8$

4) $8(p + 4) - 6 = 8p - 3$

Try These:

5) $3m - 6 = 2m + 3$

6) $x + 11 = 3x - 1$

7) $13x + 2 = 15x - 4$

8) $3b = 36 - b$

$$9) 9x = 12x + 6$$

$$10) -3m + 8 = 2m - 22$$

$$11) 2x + 3(x + 4) = 9x$$

$$12) -2y - 3(2y - 1) = 6y - 4$$

$$13) 10 - (12 + w) = w + 5$$

$$14) -2r - 3(2r + 4) = -11r$$

$$15) 3s - 9(s - 2) = 18s$$

$$16) 6p + (p - 4) = 4p$$

PROBLEM SOLVING!

The 4-STEP method:

1)

2)

3)

4)

Example:

A small office building is being remodeled. It takes 3 plumbers 7 days to install pipes. Each plumber works 8 hrs per day at \$35 per hour. How much will it cost for the plumbers to do the job?

Example:

It takes 2 carpenters 8 days to do the work at a house. Each carpenter earns \$37.50 per hour and works 7 hours per day. How much will it cost to hire the carpenters to do the house?

Complete the following: p.61 #2, 4, 6, 8

PATTERNS:

Example:

1) 2, 4, 6, 8, _____ ...

2) 1, 3, 6, 10, 15, _____ ...

3) 1, 3, 9, 27, _____ ...

Example:

Marie has 15 coins consisting of dimes and quarters. The total value of the coins is \$2.55. How many of each coin does she have? (hint: make a table)

dimes:

quarters:

Total value:

Complete the following: p.70, #3-6, 11, 14, 15

GUESS and CHECK

Example:

It costs \$0.50 to mail a postcard to Canada and \$0.60 to mail a letter to Canada. Andrew wrote 21 friends and spent \$12.00 for postage. How many letters and how many postcards did he write?

Example:

The product of 3 consecutive whole numbers is 504. What are the 3 numbers?

Example:

Batteries come in packs of 3 or 4. If your class needs 30 batteries, how many different ways are there of buying exactly 30 batteries? What combination has the least number of packs bought?

Complete the following: p.73, #4, 9 - 12

WORK BACKWARDS

Example:

Each year a delivery van is worth $\frac{3}{4}$ of its value from the previous year. A van is now worth \$9,000. What was its value last year?

Example:

Central Bakery baked some cookies and put $\frac{1}{2}$ of them away for the next day. Then the bakery divided the remaining cookies evenly among its 3 sales outlets so that each outlet received 40 dozen. How many cookies did Central Bakery originally bake?

Complete the following: p. 77, #3, 4, 5, 7, 8

WRITING AN EQUATION

Addition:

Subtraction:

Multiplication:

Division:

Example:

4 times a number plus 20 is 10 less than 57. What is the number?

Example:

In 40 hours at your regular rate of pay plus 5 hours of double time (twice your regular rate of pay) you earn \$425. What is your regular rate of pay?

Example:

A rectangle with a perimeter of 48mm is 20mm long. What is the width of the rectangle? What is the area?

Complete the following: p. 79, #2, 4, 6, 7, 9, 11